

AMENDMENTS

Please amend the above-identified application as follows:

In the Claims

Please cancel claims 2 and 23 without prejudice or disclaimer.

Please substitute the following claims 1, 3, 4, 5, 8, 11, 12, 14, 15, 16, 22 and 24 for claims of the same number previously pending.

1. (Amended) A printed circuit board comprising:

a printed wiring board;
a plurality of components mounted on said printed wiring board, wherein the printed circuit board has a cavity with one or more openings to the surface of the printed circuit board; and

an electrically non-conductive filler material disposed in the cavity and on the surface of the printed circuit board immediately surrounding the cavity so as to bridge across the one or more cavity openings and to at least partially infill the cavity, wherein the cavity is substantially inaccessible to subsequently-applied coatings.

3. (Amended) The printed circuit board of claim 1, wherein the cavity comprises:

a volume of space defined by the leads of a component, the component body and the printed wiring board, wherein the volume of space has a plurality of openings to the surface of the printed circuit board between neighboring component leads.

4. (Amended) The printed circuit board of claim 1, wherein the cavity comprises:

a volume of space between neighboring components mounted on the printed wiring board.

5. (Amended) The printed circuit board of claim 1, wherein the cavity comprises:

a volume of space between a component mounted on the printed wiring board and the printed wiring board.

8. (Amended) The printed circuit board of claim 7, wherein said epoxy is one of the family of Bisphenol-A epoxies mixed with an amine hardner.

11. (Amended) The printed circuit board of claim 1, wherein the subsequently-applied coating comprises:

a layer of dielectric coating that conformingly coats exposed surfaces of the printed circuit board including the filler material, the dielectric coating formed of a low viscosity material that facilitates accurate application of the dielectric coating using a spray atomized technique, wherein at least one of the one or more cavity openings is sufficiently large to prevent the dielectric coating from bridging across the cavity opening without the presence of the filler material.

12. (Amended) A printed circuit board comprising:

a printed wiring board;

a plurality of components having a device body mounted on said printed wiring board to form one or more regions of the printed circuit board having a highly variable and cavitationous surface including a plurality of cavities defined by an series of component leads, the component body adjacent the series of leads, and a portion of the printed wiring board below the series of leads, wherein each cavity includes a plurality of openings to the surface of the printed circuit board; and

a layer of non-electrically-conductive filler material conformingly adhered to printed circuit board surfaces in the one or more regions to provide a contoured, contiguous filler material surface having gradual transitions, wherein the filler material bridges across the cavity openings and at least partially infills the cavities.

14. (Amended) The printed circuit board of claim 12, wherein said filler material is an epoxy.

15. (Amended) The printed circuit board of claim 14, further comprising:

a low viscosity, high adherence dielectric coating that, when applied and ppcured, covers predetermined portions of said printed circuit board including at least a portion of the one or more regions coated with said filler material, wherein the filler material

prevents the dielectric coating from entering the plurality of cavities.

16. (Amended) The printed circuit board of claim 15, further comprising:

a conductive coating covering said dielectric coating and portions of the printed circuit board not covered by the dielectric coating, wherein the dielectric coating and the conductive coating form a conformal EMI shield that adheres to and conforms with the printed wiring board surfaces.

22. (Amended) A method for manufacturing a printed circuit board comprising the steps of:

providing the printed wiring board;

mounting a plurality of components on the printed wiring board, wherein at least one cavity having an opening to the surface of the printed circuit board is formed;

applying a high viscosity, non-electrically-conductive filler material to said at least one cavity such that said filler material bridges across the opening of the cavity and at least partially infills the cavity so as to provide a contoured, contiguous filler surface over the at least one cavity; and

applying one or more layers of a low viscosity, high adherence dielectric coating to predetermined portions of said printed circuit board including said at least one cavity.

24. (Amended) The method of claim 22, further comprising:

applying a low viscosity conductive coating over said dielectric coating and portions of said printed circuit board not covered by said dielectric coating,

wherein said dielectric coating and said conductive coating form a conformal EMI shield that adheres to and conforms with the printed wiring board surfaces.

Please add the following new claim 25:

25. (New) The printed circuit board of claim 11, further comprising:

a conductive coating applied to surfaces of at least said dielectric coating.